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13 September 1978

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No. 179

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No. 179

CONTENTS PAGE

ASIA

CONTENTS (Continued) Page

CONTENTS (Continued) Page

SUB-SAHARAN AFRICA

USSR

CONTENTS (Continued) Page

BRIEFS

JAPANESE DELEGATION TO PRC--Tokyo, 26 Jun--A government mission to study pollution and environmental problems in China left for Peking 26 June. The seven-member mission headed by Yoshiko Otaka, parliamentary vice minister of the Environment Agency, was scheduled to visit industrial cities including Peking and Shanghai on a 2-week fact-finding tour on air and water pollution, garbage disposal and preservation of environment. The members will exchange views with Chinese officials. [Text] [Tokyo KYODO in English 0406 GMT 26 Jun 78 OW]

CSO: 5000

DEBATE OVER USE, PROTECTION OF NATIVE FORESTS

Government Decision Pending

Christchurch THE PRESS in English 24 Jul 78 p 14

/Article by Cedric Mentiplay: "Native Forests Call for a Delicate Balancing Act"/

/Text/

In the coming week, the Minister of Forests, Lands, and the Environment (Mr V. S. Young) will advise interested parties of the Government's decisions concerning the Okarito and Pureora forests.

This is an example of the peculiar delicacy of Mr Young's threefold task. For forests and lands are no longer complementary, and protection of the environment can be quite antagonistic to policies formulated in either portfolio.

To this has been added the fourth dimension of energy resources. This portfolio is held by Mr Gair, but has a distinct bearing on Mr Young's charges because of the massive energy resources contained in our growing exotic forests.

Already processes have been devised by which valuable petrol additives can be produced from timber. As the energy crisis grows there is no doubt that expertise in this area will increase, so that in the next twenty years we may be relying on forests to provide the source of the bulk of our automotive power.

This does not ease Mr Young's task. Earlier this year tension at Pureora became so high that cynics claimed there were more protesters roosting in the disputed trees than there were representatives of the embattled kokako.

Investigations in the two widely separated areas Pureora and Okarito, have taken months. It can be forecast that the decisions will not please everybody, as decisions involving the environment seldom do. And they constitute only a small corner of Mr Young's field.

In another corner a battle rages between the conservationists, who demand unequivocally a cessation of logging of indigenous forests; and the people of small timber towns in Westland, the central North Island and elsewhere, to whom the stoppage of production would mean regional disaster.

Too often, the position is

swayed by the production of petitions signed by persons who have no connection, direct or indirect, with the immediate area involved. They are concerned about the preservation of bird life and of native timber — but their corner stores will not close or their communities die when the logging teams move out.

Last year, Parliament received a petition signed by341,000 people, praying for a halt to all logging of native forests outside Westland by the end of this year. In Westland it is recognised that forestry, logging and wood-processing are the cornerstone of the economy, providing work for some 20 per cent of the population. But because of various pressures a number of imported enterprises have either moved out or have shown some intention of doing so.

If elected in the coming ballot, the Labour Party has promised to phase out all logging of native timbers in the North Island. National has already moved in this direction, having passed the Forestry Act two years ago.

This act makes it mandatory for foresters to provide for the protection of forests and watersheds, bird and insect life, and to set aside "recreational and wilderness regions." The act declares that the loggers may proceed only if their work is consistent with a balanced regard for these other uses. This object is much sharper than that envisaged by previous legislation. In implementing it, the Government has encountered conflict between conservationists and the citizens of small logging towns. Clear-felling of indigenous forest has been replaced by selective logging, but there is still argument over the destruction of seedlings caused by the reclaiming of felled timber.

The idea behind selective logging is that only as much timber is taken from a forest as the area is capable of replacing. Conservationists are challenging this, citing the damage to flora and fauna caused by the felling and removal of just one mature tree. Little is heard of the valid point that trees, as humans, grow old and that an unculled forest is a sick forest.

Inevitably the removal/protection of native timber has become a political issue this year. The difference between the National and Labour views is mainly in the speed of implementation.

Mr Young admits that the present extraction rate of logs from indigenous forests cannot be sustained safely into the 1980s, but he regards the complete cessation of indigenous milling as unrealistic.

"The production of native timber is still too high," he said recently. "There must be an accelerated reduction of cut, particularly in the North Island. The introduction of the revised policy for native forests means that forests formerly earmarked for clear felling now have to be logged selectively.

"This had reduced the volume of timber available for industry. As a result there is insufficient timber available to the sawmilling industry to meet legal commitments. There is barely sufficient to phase out a large part of the present industry in a socially acceptable manner."

The future of North Island indigenous timber is affected by the results of surveys of native birdlife which suggest that more reserves are needed than were planned. In the central North Island, selectively logged forests may do — but time is needed to prove this point.

Thus sensitive areas will be left alone, at least until the Forest Service and the Wildlife Service, working together, can provide answers. In the central North Island the object may now be one of sustained yield, which has been proved possible.

In the South Island, and particularly on the West Coast, dependence on indigenous timbers has remained higher than in the north, and the potentially merchantable forests are much larger.

For these reasons, Mr Young makes the following points — which undoubtedly he will be making again when the official announcement is made this week.

"A severe reduction in cut would be undesirable, even though current levels of cutting in South Island forests are much greater than can be sustained.

"It is desirable to reduce the podocarp cut (rimu, miro, and other native timbers) as rapidly as possible, while maintaining the present total level of production or something close to it. The only way of doing this is to make more effective use of sawlogs from the extensive beech forests, and gradually phase in young exotic stands."

Mr Young admits the practical problems involved, particularly on the West Coast: "Here it means moving rapidly away from the more traditional rimu milling. However, if a widespread desire for more extensive reserves of lowland podocarp forests is to be realised n the South Island, these practical problems must be overcome."

The most controversial feature covering West Coast indigenous forestry relates to the extent of additional reserves. More than 160,000 hectares have been prepared for these, including large areas of dense lowland forests. There is a strong local feeling that insufficient attention has been paid to the likely socio-economic effects of these proposals.

Mr Young will mention this problem in his coming statement. He regards the prime urgency, however, as being the provision of a minimum area of forest as being immediately available for continued timber production.

Reduced Cutting

Auckland THE NEW ZEALAND HERALD in English 8 Aug 78 p 14

/Text/

Massive reductions in the quantity of native timber to be cut from central North Island forests were announced by the Government yesterday.

The cutting of native state forests will be reduced to a level that can continue in perpetuity.

The new policy, announced by the Minister of Forests, Mr V. S. Young, is expected to put about 70 west Taupo mill staff out of work.

Under the policy no more timber than is produced each year will eventually be removed from the forests.

The amount of timber being cut would be reduced as rapidly as practicable to the self-generating level, said Mr Young.

In another major part of the policy, logging is banned from sensitive wildlife habitats for at least the next three years.

Reserves will be set aside for scientific, wildlife, educational and recreational purposes, and certain areas of North Island forests will be managed for continued low-level production of native timbers.

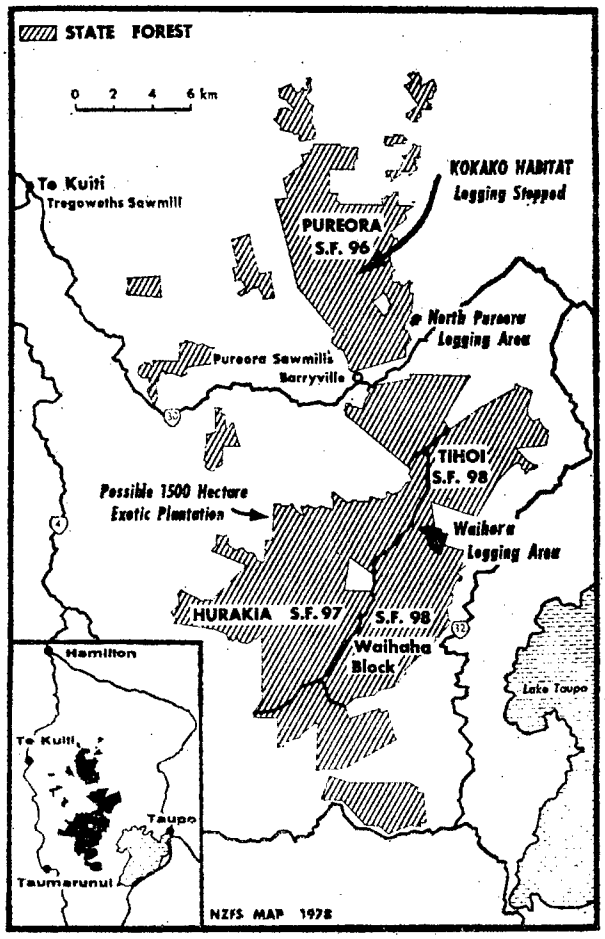
Three Years

Mr Young said all forms of government price control on native timbers should be removed to allow prices to rise as timber production fell.

He said the new policy would be reviewed within three years, in the light of additional information on the forests and wildlife. Changing patterns of use of native timbers would also be taken into account.

A state forest park, including Pureora, Tihoi, Whareputunga, Hurakia, Taringamutu and Waituhi state forests, would be established immediately.

Logging would stop in the north block of Pureora State Forest before the end of the year.



No logging would take place other than in some designated areas at least for the next three years, while research was undertaken on the kokako.

This was being done by the wildlife service, the Forest Service and the Royal Forest and Bird Protection Society.

During this period log supplies from west Taupo forests would be confined to two small areas—in Pureora State Forest and an area in the Waihaha block of Tihoi State Forest north of the Waihora stream.

Both these areas had been suggested by conservation groups, said Mr Young.

The supply of native timbers from west Taupo forests would be reduced from the present maximum of about 60,000 cubic metres a year to a maximum of 6000 cubic metres, or a 90 per cent reduction.

The wood supply to Pureora Sawmills Ltd would cease by the end of this year, and to the Waihihi and Tutakau sawmills by the end of March next year.

Mr Young said the only remaining sale, to Ellis and Burnand Ltd, would be renegotiated with the aim of reducing the native log supply from about 20,000 cubic metres to a maximum of 6000 cubic metres a year.

Final decisions on the future of North Pureora and any further decisions on west Taupo forests generally at the end of the three-year moratorium in 1981, would not depend solely on the requirements of the kokako.

The number of native logs cut from Whirinaki State Forest would also be progressively reduced from the present maximum of 30,000 cubic metres a year to 5000 cubic metres a year, over 12 years.

The forest would continue to be administered as a state forest during this period, although there would be some boundary changes with the Urewera National Park.

Detailed management proposals for the forest would be completed and open for public comment before they were finalised.

Mr Young said the changes were more drastic than any made previously in the North Island timber industry.

West Coast

About 70 people would be put out of work by the closure of three of the four west Taupo mills.

But provision had been made for planting in Hurakia State Forest. There would also be a reassessment of state forest land suitable for exotic planting in the northern King Country.

Mr Young said the cost of the new policy would be in the millions.

He is expected to announce the Government's policy on West Coast native forests in Hokitika today.

The research officer for the National Forest Action Council, Mr G. Salmon, said he was concerned about the policy announced for Whirinaki State Forest.

"It is almost like government by the click of the fingers," he said.

Public comments on the forest had been pre-empted by the Government setting a cutting rate for the forest between now and 1990, he said.

Progress

He described the Government's policy as "the best we could have expected," but said a strong case would have to be made in three years to protect the forests.

The president of the Royal Forest and Bird Protection Society, Mr A. A. T. Ellis, said substantial progress had been made with the Government's policy.

The full implications of the policy would be discussed by a society executive meeting next week.

Reaction by Conservationists

Wellington THE EVENING POST in English 12 Aug 78 p 7

/Text/

THE Government decision on the West Taupo forests has given only a temporary reprieve, according to the president of the Native Forests Action Council (Miss Gwenny Davis).

Commenting on the announcement of the Government's decision on the native forests of the North Island, Miss Davis said the announcement by the Minister of Forests (Mr Venn Young) was a mixture of good and bad news. Her sentiments were shared by other conservation groups in Wellington.

The "satisfactory" decision on the West Taupo forests had been overshadowed by the "bombshell announcement" relating to the Whirinaki forest, she said. The Government had decided to adopt a 12-year logging programme for the State forest, which adjoined the Urewera National Park. The action council had almost completed a submission recommending that this forest should be added to the park.

Deliberate

The Government decision appeared to be a deliberate attempt to circumvent the growing public opinion which favoured the enlargement of national parks, said Miss Davis. The "extraordinary" decision had been made without a wildlife survey or the publication of a management plan, nor was there any opportunity for public submissions.

NFAC, Action for Environment, and the Environment and Conservation organisations of New Zealand criticised the Minister for making his decision and thrusting aside normal procedures. No reasonable person would accept the Whirinaki decision, maintained NFAC. A submission had been prepared and would be presented to the Urewera National Park Board at its September meeting. The case would be taken to the public if necessary, Miss Davis said.

Action for Environment and ECO welcomed the moratorium on the Pureora and Waihaha forests, as it would give the kokako a better chance of survival.

But the chairman of ECO (Dr Ian Prior) said there would be some concern if logging teams were not withdrawn from the northern Pureora forest within the next few weeks. If logging continued into December, a large number of logs could be removed. A three-year moratorium would provide the opportunity to establish further the importance of some remnants of podocarp forests so that their acceptance as reserves would be readily acknowledged.

Action for Environment welcomed the proposals of compensation or alternative work in exotic forests for workers in the area. However, the group maintained that if logging had to be cut out eventually it could be done now and so give workers more security, while saving the forests.

Miss Davis commended two backbench MPs, Mr Ray la Varis (Taupo) and Dr Ian Shearer (Hamilton East) for "valiantly fighting for a good decision."

"However, the conservation movement would be unwise to rest on its laurels, for the West Taupo battle is far from won yet," she said. "The forests at stake are not reserved, only temporarily protected."

CSO: 5000

BATTLE RAGES OVER FUTURE OF RESOURCES

Christchurch THE PRESS in English 15 Aug 78 p 3

/Article by Oliver Riddell/

/Text/

A tremendous battle is now being waged within the Government between different energy interests over which forms of energy production should be paramount over the others.

This comes after the realisation that New Zealand's power requirements for 1998 have been overestimated 30 per cent.

The degree of over-estimation of electricity needs has risen to 25 per cent by 1993 — the first 15 years of the 20-year power plan — and to 30 per cent for the full 20-year plan.

If the estimated power sources have to be cut about 30 per cent, then naturally those involved in power production will be concerned about the prospects for their particular fuel.

It is not likely that the Government will reduce power production the full 30 per cent. Too many other factors are involved, particularly employment opportunities. Also, the Government will not want to over-react to the point where there is a risk of not having enough power 20 years from now.

But it is obvious that not all planned sources of electricity from hydro, coal, oil, natural gas and geothermal steam will be reduced equally. It is the level of reduction for each source which has caused the argument.

At this stage, it seems that the proponents of hydro-electricity are doing best. Electricity from water is the cheapest and most easily renewable source, and once a dam and power station have been built, the water has to be used for it will simply flow over the top. There may well be a reduced momentum for building hydro power schemes.

The high dam at Clyde on the Clutha River may be turned into a low dam, and future planned development on the Clutha and the lower Waitaki River may be postponed.

Hydro development however, should continue, even if on a reduced scale. It is the cheapest source of power, and one for which New Zealand has built up a skilled work force and a pool of sophisticated equipment. Not to continue would be to disperse both assets when renewed economic growth might require them both in a few years.

Geothermal power is also a renewable resource. But it is expensive and poses considerable technical problems. Advantages can be seen in postponing further geothermal growth, so geothermal growth seems certain to be deferred.

So what slack there is will be picked up by either coal or oil and natural gas, and it is here that the battle is the most fierce. It seems to be a battle that coal is winning, because its voice within the ranks of officialdom is stronger.

Neither coal, oil nor natural gas is renewable. Both can await further development. But New Zealand has contractual commitments for the utilisation of both, as well as expensive facilities to handle both, so any decision to use one at the expense of the other will be extremely expensive.

Oil and natural gas are the glamour fuels, and both have received a huge financial commitment in the Maui and Kapuni fields. New Zealand has a commitment to the oil company partners of Maui to take or pay for the gas,

so even if the gas stays in the ground New Zealand will still pay for it.

Coal is not a glamour fuel, but it is cheaper to process into electricity than oil and natural gas, and New Zealand has made a large financial commitment to it at the Huntly power scheme on the Waikato River. Other power schemes based on coal, such as at Buller, have been planned.

The reason oil and natural gas seem destined to miss out in favour of coal, in the meantime, lies in the agreement between the Government and the Maui partners.

The Government is bound to pay for the gas, even if it lies in the ground, but at an agreed rate that is now far below (perhaps only 20 per cent of) the international market price for gas.

This could have been tolerated by the Maui partners while the gas was being uplifted by the Government, because they could then process the condensate from the gas. Their profit has lain in sales of condensate, particularly of tanked L.P.G. such as has been proposed for gas generation in the South Island.

If the gas stays in the ground, then the Maui partners will have no condensate. This makes the immediate short-term outlook for Maui profitability rather bleak. But, because of this, the Government may well feel that to pay for its commitment on unused Maui Gas would be less painful than paying for its commitment on unused coal.

There are not too many options open to the Maui partners. It is unlikely that the Government would permit the export of Maui gas not required in New Zealand, even if the partners could import the sophisticated equipment needed.

Pumping out the gas, taking off the condensate, and then repumping the gas back underground, is theoretically feasible, but not on Maui I.

Final decisions have not yet been made, but the odds seem to be lengthening against oil and natural gas in the revised power plan. New Zealand's good fortune in over-estimating its power needs should be considered in conjunction with the costs of under-using the electricity potential now available.

CSO: 5000

NANNING MAKES PROGRESS IN POLLUTION CONTROL

Peking NCNA in English 0717 GMT 27 Aug 78 OW

[Text] Nanning, August 27 (HSINHUA)--Measures aimed at cutting down pollution have been implemented at more than 60 percent of the furnaces and kilns in Nanning, capital of the Kwangsi Chuang Autonomous Region. Now, the air there is clean and trees and grass are a lush green in areas around the factories where there had formerly been serious pollution. All this is due to the city's efforts to deal with solid, liquid and gas waste products from industry.

The aluminium factory in the city used to discharge vast quantities of hydrogen fluoride and sulphur dioxide. Now, they use manganese dioxide to absorb the sulphur dioxide to produce electrolytic manganese, so that the recovery rate of manganese dioxide has reached about 95 percent and the rate of toxic gas discharged into the air has been lowered to comply with standards set by the state. The density of hydrogen fluoride discharged per cubic metre now also complies with state standards.

Local people make multi-purpose use of industrial waste and try to turn the harmful materials into useful ones.

The Nanning canning factory used to dump large quantities of pineapple skins every year. In recent years, however, in addition to making fruit juice, the factory also uses pineapple skins and cores to extract protease and then ferments the remaining bagasse for pig feed.

The city's sweet paper mill used to dump a large amount of silt into the river. This silt contained much nitrogen, phosphorus and potassium. Experiments have shown that such pollutants are good fertilizers, and an additional workshop has been added to this mill to recover them.

The city has in recent years built more than 40 brick kilns which have turned out 30 million bricks by making use of coal cinders, thus meeting the needs of local construction work and improving the city's environment. Many factories and mines have carried out technical innovations and improved equipment that reduces industrial waste in production processes. Through technical improvements, the Nanning chemical plant has reduced the leakage rate of waste matter from 0.42 to 0.09 percent.

The city authorities are now calling for new, increased provision to be made at the planning and construction stages for a reduction in industrial waste and for more multi-purpose utilization of resources.

RECEPTION GIVEN FOR UNEP ENVIRONMENTAL SCIENTISTS

Peking NCNA in English 1641 GMT 21 Aug 78 OW

[Text] Peking, 21 Aug (HSINHUA)--Scientific workers of various countries to a UNEP (United Nations Environment Programme) training seminar and investigation on desertification control in China were guests of honour here this evening at a reception given by Chu Ko-ping, a leading member of the office of the leading group of the environmental protection under the State Council.

The seminar and investigation are led by G. Karrar, director of the desertification control unit, UNEP. The scientific workers are from Argentina, Egypt, India, Peru, Somalia, the Sudan, Libya and Nigeria. They will spend about one month in China's Ningsia, Kansu, Inner Mongolia and Sinkiang and have discussions with Chinese colleagues.

Among those attending the reception were Director of the Department For Foreign Affairs of the Chinese Academy of Sciences Hao Ting, Deputy Departmental Director of the Ministry of Foreign Affairs Pi Chi-lung and diplomatic officials of foreign embassies concerned in Peking.

CSO: 5000

'KYODO' CORRESPONDENT DESCRIBES PRC ANTIPOLLUTION EFFORTS

OW301147Y Tokyo KYODO in English 1024 GMT 30 Jul 78 OW

[By KYODO correspondent]

[Text] Tokyo, 3 Jul KYODO--"Environmental pollution has become a problem for China too. Atmospheric pollution as a result of dust and soot is particularly serious." Wang Tsung-chieh, chief of the State Council's General Office of the Environmental Protection leading group, made this admission to seven members of a Japanese Government environmental problem delegation that recently concluded a two-week tour of Chinese factories, petrochemical plants, and research facilities for the prevention of pollution.

Wang told the group, including this correspondent, that air pollution is so serious in some industrial areas that large numbers of people suffer from chronic respiratory ailments. Wang said that 8 million tons of coal is burned in Peking every year, and that smoke pollution is especially bad in the winter when half the 990,000 households in the city use charcoal briquettes to heat their homes. Photochemical smog is a problem that China too will have to deal with in the future, Wang said.

We were given a graphic example of industrial pollution in a visit to an electrode carbone factory in the suburbs of Shanghai. Officials indicated how coal used as the raw material produced 1,000 tons of dust every day that is blown out of the factory and damages agriculture fields in the vicinity. The officials said that between the construction of the factory in 1959 and 1974 they had paid out yen 4 million in compensation to pollution victims, not a small sum considering that the average monthly wage of a laborer is yen 6,000. However, they added that this year pollution prevention measures have pulled compensation payments down to yen 260,000, and that they are determined to reduce pollution to zero in the future. We were also told that the release of liquid wastes into waterways has created pollution problems in the Yangtze and Yellow rivers and other major lakes and waterways.

The Chinese cities visited by the delegation were rich with trees and plants, but there was a surprising absence of birds, a fact delegation members surmised could be the result of China's liberal use of BHC and DDT, pesticides which are banned in Japan.

This guess was backed up when officials of the Science Academy Environmental Chemistry Research Laboratory informed us that the spraying of BHC and had been found to cause damage to some agricultural products. However, if China has found that pollution is an unwelcome escort to industrial development, the nation is now determined with all the fervor of a political movement to control and even reuse liquid, solid, and gas wastes.

Shanghai, a city of 5.5 million people and an industrial center with more than 10,000 factories, is filled with such polluters as metal-plating, chemical, metallurgy, shipbuilding, and textile plants. But as a result of a concerted effort to turn waste products from a minus to a plus for the city, Shanghai is blessed with extremely fresh skies and waters. Officials of the Shanghai General Office of Enviormental Protection said that 1 to 2 million tons of resources are recovered from city waste materials every year. They are able to recover 98 percent of the sulphuric acid given off by factories, and have developed a method which cuts the use of mercury in the city's caustic soda factories by 600 kilograms a year. The city now recovers 1,000 tons of coal dust and 200 tons of hydrochloric acid, 90 percent of the total for those wastes, from factories every year.

The Chinese also took the delegation to the northern city of Harbin to show a boiler factory which obtains all its fuel from a coal-gas works located on the premises. The delegation saw how the toxic phenol generated with the production of the gas is disposed of by means of bacteria counteragents.

An official at the plant said that while the system is still in the experimental stage, they have succeeded in reducing phenol in waste liquids from 15,000 to 0.5 parts per million (ppm). The Chinese drive to combat and utilize industrial wastes was also seen in a Harbin electrical-instrument factory where 3,000 to 4,000 tons of water is conserved every year by recovering chrome used in electro-plating, and in a Changchun railcar factory where dust and metal particles are collected and transported to a brick factory. Various uses are also found for private garbage. In Shanghai there are 2,000 workers collecting 3,000 tons of garbage a day, which is divided into edible scraps for livestock feed, nonburnable waste, and disintegrative wastes. The last category is carried by ships to farming communities where the waste is fermented and used as fertilizer to moderate the quality of the soil.

The Chinese have always been adept at using their resources to the fullest extent possible, and while the effort to make comprehensive use of waste materials is still at a very basic level, it appears effective as a pollution control method suiting the industrial development system unique to China. China's model city for the "new type of socialist system oil fields" is Taching in northern Helungkiang Province, where huge petrochemical complexes stand next to wide potato fields and pastures for cows and horses.

Environmental officials told the delegation that the Taching type system has broken new ground in its effort to join the city and rural communities, to combine industry and agriculture, in the total management plan of the area. As an example of this harmony between oil fields and potato patches they conducted a tour of facilities where natural gas contained in the crude oil and polluted water are separated and the water is led back down inside the earth. They said that not only does this prevent the polluted water from escaping into nearby farms, but it also helps maintain the necessary water pressure to bring the oil up to the surface of the earth.

The Japanese delegation was somewhat dubious of statements that the petroleum complex in Taching has already solved the problem of nitrous oxide emissions, but the Chinese guides were quick to admit that Taching still has a long way to go in preventing pollution, particularly the contaminating of the atmosphere.

Enviromental protection group chief Wang was also unequivocable in stating that just as China's technological level is still 10 to 20 years behind the industrialized West--its pollution-control industry lags far behind more industrially advanced nations. But Wang said that for that very reason China has taken a strongly positive position toward preventing damage to its enviroment.

Language stating the importance of enviromental protection was incorporated into the new constitution passed by the Fifth People's Congress this year, and Wang said that as a consequence of this all new buildings in China must now comply with the "three simultaneous actions" policy. This policy dictates that permission for the construction or operation of a factory will be refused unless the builders take appropriate pollution-prevention measures at the time the factory is planned, constructed, and begins production. Wang said that problems still remain in older plants, such as the Shanghai carbon factory where half the funding for pollution controls has had to be supplemented by the city revolutionary committee.

The city of Peking, whose winds and water flow generally move from north to south, is now trying to make factories move to the southern part of the city to alleviate some of its pollution headaches. But Wang said the antipollution campaign in China is hampered by some factories which have been less thanenthusiastic in following the new directives. On the academic level, the Academy of Science Enviromental Chemistry Research Laboratory in Peking is now carrying out extensive projects in improving the precision of its analyses.

During the two week visit, the delegates were impressed by the fact that differences in the political and industrial systems of China and Japan did not preclude learning valuable lessons from the Chinese experience. Delegation chief Yosiko Otaka, Enviroment Agency parliamentary vice minister, said Japan could do well by imitating the spirit of China's "three simultaneous actions" policy.

CSO: 5000

'KWANGMING DAILY'CALLS FOR PROTECTION OF NATURAL RESOURCES

HK090821Y Peking KWANGMING DAILY in Chinese 29 Jul 78 p 1 HK

[Short commentary: "Pay Close Attention to the Protection of Natural Resources"]

[Text] The Kwangtung Provincial Bureau of Agriculture and Forestry sends an observation group to Hainan Island to study the protection and development of rare tropical animals and plants in some forest regions. A tract of natural limestone forest is recently discovered in the Lungkang area, Lungchou County, in Kwangsi Chuang Autonomous Region. The revolutionary committee of this autonomous region designates this areas as a nature protection area and uses it as a base for the study of rare animals and plants in the autonomous region. These methods of work should be encouraged.

China has rich resources of wild animals and plants including many kinds of world renowned, precious and rare animals and plants. They are a valuable treasure of our country. Protecting, developing and rationally utilizing these natural resources is of vital significance in quickening the modernization of agriculture, aiding national reconstruction, maintaining and improving the environment and conducting scientific research in our country.

After liberation, the party and the government paid particular attention to protecting natural resources and the State Council promulgated the "Regulations for the Protection of Forests" and the "Instructions on Actively Protecting and Rationally Using Wild Animal Resources." The Chinese people have done a great deal of work to protect nature and natural resources and have scored remarkable results. However, Li Piao and the "gang of four" pushed their counterrevolutionary revisionist line, stirred up anarchistic ideas and encouraged the tendency toward capitalism. As a result, ignorance of state regulations, the willfull destruction of forests for wasteland reclamation, the random felling of trees and hunting of animals, violations of nature protection regulations and other serious phenomena exist in such areas as Hainan Island and Hsishuangpanna. In some places, people even destroy forests with fire, encroach upon the forests owned by the state and destroy things in places designated by the state as nature protection areas. As a result, natural resources have been seriously destroyed and many kinds of precious and rare animals and plants are on the brink of extinction. If this situation is not stopped or corrected immediately, irretrievable, serious losses will be incurred. For this reason, all localities and departments concerned must firmly carry out wise leader Chairman Hua's instructions on "changing the wrong method of attaching greater importance to lumbering than to afforestation" and "adopting effective measures for protecting precious and rare animals" as well as the state's relevant principles, policies and regulations. [paragraph continues]

They should put this work in an important place on their agendas, strengthen party leadership, seriously sum up experiences and lessons, work out methods for solving the existing problems, do a really good job of protecting and managing natural resources and wage a firm struggle against the destruction of the environment and natural resources. Propaganda departments should vigorously publicize and educate, and the scientific research departments should intensify work on related scientific research projects and contribute toward protecting and developing the natural resources of our country.

Protecting the environment and natural resources is an important task involving a long period of time. Once the leadership attaches importance to this work and the masses are aroused to do this work, it will definitely be possible to do a good job of protecting natural resources.

CSO: 5000

COMMENTARY URGES SPEEDY MARSH GAS DEVELOPMENT

Peking KWANGMING DAILY in Chinese 30 Jul 78 p 2 HK

[Commentary: "Properly Grasp Scientific Research on Marsh Gas and Speed Up Its Development"]

[Excerpts] The second national conference on exchanging experiences in popularizing march gas recently held in Minyang Municipality, Szechwan, by the state Economic Commission, the Science and Technology Commission and the Ministry of Agriculture called on the rural areas of all provinces to conduct a socialist emulation in vigorously promoting marsh gas. This call should receive the attention of the leadership at all levels.

Over the past few years, many rural areas have achieved satisfactory results in popularizing and using marsh gas. Particularly in areas seriously short of firewood, new ways have been found to solve the fuel problem and increase the supply of manure. Many areas have promoted the multipurpose use of marsh gas and have used it for diesel engines, generators, crushing machines, pumps and machines for processing agricultural and sideline products. A new trail has been blazed in the rural communes' and brigades' effort to solve the problem of cheap energy with their own resources.

At present, the leadership of certain areas does not have an adequate understanding of the great significance of popularizing and using marsh gas. The development of marsh gas construction efforts is very uneven. The level of management is low. Scientific research lags behind the development of the situation. Quite a large number of marsh gas pools already built have not been properly used. This hampers the development of the marsh gas undertaking.

The leadership of all levels should view the promotion of marsh gas as a major issue in the high-speed development of agriculture. In the movement to build Tachai-type counties, we must fully arouse the masses and popularize and use marsh gas in an organized and planned manner. We must popularize marsh gas from one team to another and raise the marsh gas construction effort to a new level. We must strengthen scientific research on marsh gas. All areas should train marsh gas technical teams

and make a point of giving full play to the backbone role of specialized teams. They must establish a red and expert marsh gas scientific and technical contingent so that marsh gas research can stay ahead of the marsh gas construction effort and so that the level of management and use of marsh gas can be further raised. The scientific and technical forces of Peking, Shanghai, Canton and other major cities are very strong. Some of them have now established marsh gas experimental stations or marsh gas research offices. This is good. It is hoped that all areas can select appropriate scientific research organs and personnel at an early date, properly carry out scientific research tasks, promote cooperation, strive to achieve results within the shortest possible time, further raise our countryside's level of fermentation and technology in using marsh gas, give full play to the role of the existing marsh gas pools and further popularize marsh gas. In this way they can make still greater contributions toward speeding up the development of and modernizing agriculture.

CSO: 5000

BRIEFS

KWANGTUNG ENVIRONMENTAL PROTECTION CENTER--Canton, 23 Aug--New premises that will house the laboratories and offices of the Canton Environmental Protection Center have recently been completed. The center's staff will monitor air, water, soil and noise pollution in the industrial areas of Canton as well as in areas around large factories and mines. The staff will also be encouraging units to adopt measures that will aid environmental protection. The specially commissioned laboratories and offices are to be housed in a 7-story building with a total floor space of 5,00 [as published] square meters. [Text] [Peking NCNA in English 0704 GMT 23 Aug 78 OW]

YUNNAN RIVER POLLUTION--Kunming, 6 Aug--The Yunnan Provincial Revolutionary Committee has set up a leading group to direct the work of clearing the Tanglangchuan River of pollution. As of the end of June, 11 of the 26 projects planned to be completed in 1978 had been either fully or basically completed. In support of Yunnan Province's plans, the state council's leading group in charge of environmental protection has appropriated special funds and supplied vehicles to help in the work. The province also ruled that no new plants emitting harmful waste materials are allowed to be built along the river and that those built must have equipment to deal with the wastes. [Peking NCNA in Chinese 0208 GMT 6 Aug 78 OW]

CSO: 5000

QUALITY OF DRINKING WATER IN QUEBEC DISPUTED

Uneven Standards Enforcement

Quebec LE SOLEIL in French 2 Aug 78 pp A1, A2

[Article by Guy Dube]

[Text] More than 80 percent of local jurisdictions in the immediate Quebec area do not meet the bacteriological standards for drinking water laid down by the National Health and Welfare Ministry and the Quebec Environmental Protection Services (SPE).

For the whole of 1977, only 5 municipalites of the 28 consistently provided taxpayers with water containing no coliform bacteria. They were: Quebec, Saint-David, Saint-Louis-de-Pintendre, Bernières, and Montmorency.

The worst drinking water, bacteriologically speaking, is what comes out of the taps in Giffard, followed by Sainte-Foy, Beauport, Sainte-Thérèse de Lisieux, Courville, Orsainville, Saint-Emile, Saint-Romuald, Charlesbourg, Villeneuve, and Saint-Nicolas.

This is what emerges from the data compiled by LE SOLEIL, in cooperation wiith the Quebec environmental protection services.

When you analyze these data from the central office of the drinking water control service, you find that in fact only eight municipalities out of 28 last year met the limit on coliform bacteria set by federal law (which is identical on this point with provincial law).

Of these eight municipalities, five were found to have no coliform bacilli in their drinking water supplies as a rule, and, in the other three, the SPE inspectors only occasionally found as much as 6 B. coli per sample. These were Saint-Rédempteur, Sillery, and Cap-Rouge. The drinking water in these last three towns was

ruled acceptable by the SPE, and falls within acceptable limits as laid down by the law.

Of all city aqueducts whose were tested, Quebec is the only one in the region to run its own drinking water analyses. This city department takes 20 tests a month at 28 sampling points, and analyzes the samples. The results of the analyses are forwarded to the SPE.

The director of drinking-water quality monitoring at SPE, Mr Clément Audet, told us that whenever one municipality lets its B. coli levels exceed the legal ceiling, there is massive contamination among neighboring populations.

Here is the way the towns stand in the 1977 average ratings of bacterial content in drinking water:

Uniformly excellent water:
Quebec
Saint-David
Saint-Louis-de-Pintendre
Bernières
Montmorency

Water never worse than class "B" or "c"
Saint-Rédempteur
Sillery
Cap-Rouge

Water never worse than class "D"
(from worst to better)
Loretteville
Lauzon
Saint-Henri
Charny
Lac Saint-Charles
Lévis
Saint-Jean-Chrysostome
Lac-Delage

Water never worse than class "E"
Charlesbourg-Est

Water ranked in class "F" (worst to best)

Giffard	Orsainville
Saint-Foy	Saint-Emile
Beauport	Saint-Romuald
Sainte-Thérèse-de Lisieux	Charlesbourg
Courville	Villeneuve
Orsainville	Saint-Nicolas

In cases like this, there are many cases of gastroenteritis, and people must boil their drinking water for at least 20 minutes before drinking it.

The list published here today deals only with municipal aqueducts whose water is treated either by filtration or by chlorination.

The alphabetical ratings shown in the table are:

A = Excellent water, no B. coli
B = Acceptable: 1 to 4 B coli per sample
C = Highest acceptable level: 5-6 B coli per sample
D = Some risk of contamination: 7-50 B. coli per sample
E = Serious risk of contamination: 51-99 B.coli " "
F = Massive contamination: more than 100 B. coli/ "

It should be emphasized here that water supplies are not necessarily invariably classified as "D", "E", or "F". By way of example, Giffard, which was analyzed 89 times over the year and which tops the list of bacteriologically terrible drinking water, tested eight times in class "F", once in class "E", nine times in class "D", seven times in class "B", and 63 times in class "A".

'Drinking Water Is Safe'

Quebec LE SOLEIL in French 4 Aug 78 p A-3

[Article by Guy Dube]

[Text] "There is no reason for people to be afraid. Drinking-water quality is safe everywhere in Quebec, both on the north bank and on the south bank of the St. Lawrence," said the Environmental Protection Service of Quebec.

And yet, several towns in the immediate Quebec area, including Giffard, Beauport, Orsainville, Saint-Emile, and Sainte-Thérèse, have reported gastroenteritis epidemics attributable to the low bacteriological quality of drinking water in 1977.

In all, no less than 3,000 cases of gastroenteritis, according to figures supplied to LE SOLEIL yesterday by the director of water quality control at SPE, Mr Clément Audet, were reported last year.

Mr Audet, along with spokesmen for several area municipalities, responded yesterday to an article in Wednesday's LE SOLEIL.

That article reported than only eight towns out of 28 in the Quebec metropolitan area consistently met maximum B. coli pollution standards last year.

LE SOLEIL's figures came directly from the SPE, and covered all 12 months of 1977.

Contamination

During a telephone interview yesterday with IL SOLEIL, Mr Audet told us that the figures he had given us the day before might "contain some potential errors."

According to Mr Audet, these "errors" stemmed either from the individual samples of drinking water taken, or from the way they were processed in handling or analysis. That, he said was what happened with Charny water which, had it not been for just such errors, would have had a clean bill of health for its water supply the whole year round.

Quite unintentionally, the samplers and analysts, he said, might contaminate their drinking-water samples, and their findings under such conditions would not be set aside during the monthly or yearly compilations of results.

There was still another point that emerged from the SPE's effort to set the record straight. Sometimes, it seems, samples are taken in places where the demand for drinking water is very low, and where bacteria are left to multiply in peace, without any adverse effect on the quality of the total supply in the municipal water system.

This sort of thing happened in the town of Sainte-Foy, according to Mr André Normand of the Sainte-Foy filtration plant, and according to the SPE spokesman, Mr Clément Audet. The demand for water in the scientific installation there is very low.

And the adverse results showing up in the records for Sainte-Foy can be accounted for by samples taken in that part of town. Mr Audet explained that some municipalities may occasionally "forget" to drain the water out of the system, by means of street-corner spigot-fountains, to prevent the growth of bacteria.

As for the Sainte-Foy water supply as a whole, Mr Audet called it excellent, except for the area right around the scientific zone.

3,000 Cases

While maintaining that the water quality for the Quebec region is safe and that people should not be afraid to drink it, Mr Audet added that there had been outbreaks of gastroenteritis in 1977, including epidemics at Giffard, Beauport, Saint-Emile, Orsainville, and Sainte-Thérèse.

In Mr Audet's own words, there were "3,000 cases of gastroenteritis."

On each of those occasions the news media reported the problem with the water, and the people had to boil their drinking-water before using it until further notice.

Communiqué

In response to the article appearing in Wednesday's LE SOLEIL, the SPE people yesterday evening issued a communiqué through the TELBEC news agency headlined: "Water Quality Excellent in Quebec Region."

The communiqué deplored the "arbitrary ranking" of municipalities printed in our Wednesday article, and emphasized the point that "analytical findings are merely one instrument used in assessing water quality."

In the same communiqé, the director of drinking water control, Mr Clément Audet impugned the tenor of the article. It was Mr Audet himself who gave LE SOLEIL the figures we published. It was he who told us that there had been 3,000 cases of gastro-enteritis due to poor water quality in the Quebec region last year; it was he, again, who added that "the water quality is 'sécuritaire'."

The government press release goes on to explain that the "SPEs systematically monitor 1,200 water lines serving close to 5 million citizens. Their laboratories run bacteriological counts on 85 percent of all drinking water used in Quebec.

"When a system is brought under the inspection regulations, the SPEs gather detailed information as to the type of equipment in use in that place, so as to be able to respond immediately in case of emergency situations which are caused by malfunctions which are always possible in such systems, and this greatly cuts down on the time it takes to get the malfunctioning system back in order," adds the communiqué. It goes on to say that at the very moment the monitoring system reveals some anomaly, it simultaneously alerts the municipality and the SPE's information service, so that they can tell citizens to boil their drinking water until the malfunction is corrected.

6182
CSO: 5000

QUEBEC LAUNCHES WATER PURIFICATION PROGRAM

Montreal LA PRESSE in French 15 Aug 78 p A3

[Article by Jean-Pierre Bonhomme]

[Text] Quebec's government has just authorized application of a national program to purify waste water which will require a short-term disbursement of $144,000,000 and whose effects will be felt mainly in the Montreal area.

Deputy Environment Minister Marcel Leger announced this news yesterday during a press conference. He explained that the new program will affect seven "targets", or sub-reservoirs, whose water is the most degraded. The plan involves certain key municipalities on the banks of the North River, of the Thousand Islands River (the eastern part), of the south bank channel, of Two Mountains Lake, of Lake St Louis South, of the Prairies River (north bank) and the Yamaska River. Credits to be granted for the territory's other reservoirs will be released later.

In addition, the minister announced revision of the structure of the Environment Ministry (which has not yet been formally created). An "intervention unit" bringing together representatives from the general departments, particularly Water and Research, has been created to better coordinate the bookkeeping. Moreover, project leaders have been named for each of the target zones. With municipalities and citizens' groups they will establish the course to be followed in depolluting the water.

Mr Leger said negotiations will begin after next week, with a view to signing memoranda of intent. In that regard he stated that he himself will meet next week with municipal councilmen and citizens interested in the purification of the North River.

The minister stated that the government's objective is to permit rapid reestablishment of usage (20 hydrants, 30 beaches and 138 biological sites may also be recovered) while allowing municipal bodies to pay for them on a deferred basis. He stated that in the areas selected it will be necessary not only to treat the municipal outfalls, but at the same time to attack the industrial and agricultural effluents which are at least equal in importance.

Establishment of a system of royalties is carried over until later.

The method of financing does not differ greatly from the one from which the municipalities are already benefiting. Municipalities undertaking to treat their water will be able to profit from reimbursements of 90 percent at the maximum, for construction or improvement of equipment for treatment of outfall water. They can also profit from subsidies of 66.6 to 90 percent for repairing sewer systems and constructing domestic interceptors. This includes a federal subsidy of 16.6 percent.

In that regard the minister announced the government's intention "to take into account the municipalities' ability to pay and the extent of the work, in order not to increase the total assessment rate by too much.

Where construction of sewer systems themselves is concerned, the least wealthy municipalities will benefit from increased aid. The calculation will be made in terms of a normalized municipal cost-evaluation report.

Minister Leger thoroughly emphasized that the municipal councilmen hesitate to invest in the area of water purification because they see no immediate benefit in it, either from an economic point of view or an electoral point of view. He regretted, justifiably, that municipal councils wait, beat around the bush sometimes, while hoping that public bodies upstream will find ways to clean up their damage.

8946
CSO: 5000

MORE ATTENTION TO ENVIRONMENTAL PROTECTION URGED

Tirana SHENDETESIA POPULLORE in Albanian No 1, Jan-Feb-Mar 78 pp 3-5

[Article by Dr Tahir Cenko, director of Directorate of Hygiene and Epidemiology in Ministry of Health: "More Attention to Protecting the Environment from Pollution"]

[Text] If all that is being done for the protection and improvement of the working masses, the creation of a suitable and hygienic environment at work occupies and important place. This is closely linked with the steps that must be taken to protect the environment from pollution originating at the working places.

The Seventh Congress of the AWP has charged the state and economic organs, especially the health and administrative organs, to pay special attention to protecting the environment from being polluted by industrial waste and keeping our envoronment clean and neat.

The protection of the environment from pollution is, in the real sense of the work, an important problem that affects the health not only of the workers, but also of livestock and plants; therefore, the activization of all levels, from the ministries to the work center managements, the organs of the health inspectorate and most particularly the health personnel of the enterprises.

Thanks to the great concern of the Party to keep a clean environment, environmental protection has become a constitutional responsibility. The measures that are necessary to protect the environment have been approved by the People' Assembly in Decree 5105, dated 30 October 1973, Decision of the Council of Ministers No. 205 and the regulations issued by the Ministry of Health.

This shows the importance of environmental protection for the health workers, who see the protection and improvement of the health of the workers closely related to the surrounding environment.

Among the health workers in hospitals and polyclinics there is also a large number of specialized organs in prophylactic services. A large number of high and average medical cadres are engaged in the work and production centers in the villages.

The prevention of professional diseases and other health hazards at work mostly depends on the steps taken to protect the environment from dust, gases and other physical factors. The Institute of Hygiene and Epidemiology, in cooperation with the district hygiene directorates and the health workers in the work centers, must investigate the sources of air, water and land pollution. The cadres and laboratory facilities needed to do this exist. However, closer cooperation with the engineering-technical personnel, especially the technical safety personnel, is needed to detect the organizational disciplinary in adequacies at work which influence environmental pollution both inside and outside the enterprises.

In our country industial pollution is caused by the chemicals released during the extraction, processing, and enrichment of petroleum.

In our country, quite different from the case in the revisionist imperialist countries, the development of industry, agriculture, and other sectors is proceeding in such a way as to guarantee a clean environment within and around the projects. In this area the health organs have been given by decree the important responsibility of control, and the health inspectorate must take the necessary steps when the hygiene and health norms are not carried out.

Furthermore, much has been done concerning the control of the degree of air pollution in some residential areas and industrial centers, such as the copper metallurgic plants in Kukes and Rubik, the zone of Gorishte, the cement factories, the nitrogen plant in Fier and others. However, more must be done to define the extension of pollution in area.

Another important responsibility for the health workers is to define the effect of pollution on the workers' organisms. The early detection of damage, no matter how slight, to the health of the workers from the presence of dust, gas, steam, etc., is an important indicator of the continual observation of the condition of the health of the workers.

The implementation of the instructions issued by the Ministry of Health, beginning with the acceptance of the workers for the first time, their periodical control and their assignment to jobs suitable for their health condition, etc., are extremely important to the detection of the condition of the health of the workers. Much attention must be paid in this area, since there have been many cases when physicians, especially those assigned to enterprises, do not go deeply enough during their periodical checkups. The health sections at the District People's Councils must better follow

these problems and hold the physicians of the ambulatory service, especially those assigned to the work and production centers, more responsible for the stricter implementation of the regulations on the physicians in the work and production centers. During their medical visits the physicians at the enterprises must take into consideration the environment at work, and then concentrate on medical and laboratory control in those organs or systems that violate the specific conditions of the enterprise. Among these there may be damage to the respiratory system in work environments with dust, sulfuric gases and other gasses which irritate the respiratory tract, damage to the liver and kidneys in the chemical industry and damage to hearing in environments with a high level of noise.

The increased mechanization of agriculture and the growing use of chemicals, especially pesticides, calls for greater care not only by the farm workers who store and use them, but also by the health personnel working in the villages who must check the implementation of the hygiene and health measures dealing with the poisons used in agriculture.

With the decisions issued by the Council of Ministers to improve the organization of environmental protection, each agricultural cooperative, enterprise or institution has formed an environmental protection group headed by the manger of the enterprise or institution or by the head of the cooperative. This group, composed of three or four members representing the working class or cooperative farmers, has absolute power and is responsible to the Executive Committee of the People's Council for hygiene and cleanliness in the work centers and work sections and in the territory of the factory. But the controls conducted by the Ministry of Health show that these environmental protection groups have not been very active in carrying out the tasks established by the Decision of the Council of Ministers in regard to the proper understanding of the situation and the programming of the steps that need to be taken. Such shortcomings also appear in the environmental protection groups of the agricultural cooperatives.

Therefore, the Hygiene Directorates, as the controlling organs established by decreem must demand greater accountability in this problem.

1405
CSO: 5000

BRIEFS

ENVIRONMENTAL PROTECTION--An expanded meeting of the Fatherland Front National Council Presidium opened on 24 July in Sofia. It is dealing with the state of environmental protection, and with the development of a nationwide movement for environmental protection. The meeting is chaired by Pencho Kubadinski, BCP Central Committee Politburo member and chairman of the Fatherland Front National Council. Peko Takov, BCP Central Committee Politburo candidate member and deputy chairman of the State Council; Petur Dyulgerov, BCP Central Committee secretary; Vladimir Bonev, National Assembly chairman; and Nacho Papazov, chairman of the Committee on Science and Technological Progress, are taking part in the meeting. [Text] [Sofia Domestic Service in Bulgarian 0830 GMT 24 Jul 78 AU]

CSO: 5000

HYDROELECTRIC POWER STATIONS MUST NOT HARM THE ENVIRONMENT

Ljubljana DELO in Slovenian 24 Jul 78 p 3

[Article by Silvestra Rogelj]

> [Text] Ljubljana, 23 July, 1978--Whenever plans for a new hydroelectric power generating plant are discussed the societies for environmental protection inevitably raise their voices. This is understandable because hydroelectric power plants have a serious impact on the environment. However, no matter how they may mar our landscape we shall not be able to do without them in the future either. According to the provisions of the master plan for the development of energy supply capacities on the territory of the Socialist Republic of Slovenia for the period from the year 1981 to 2000 we shall have to build several new hydroelectric power plants because of energy shortages.

However, it is not justified to object to all hydroelectric plants out of concern for the fate of our natural environment. The republic professional service for the natural heritage at the Institute for Protection of Monuments of SR Slovenia has classified future hydroelectric power generating plants into three groups with respect to their environmental impact. In the first group are those that constitute a direct threat to our most precious natural heritage exerting an impact on environmental values which cannot be offset by their economic utility. The second group includes power plants which have a serious impact on the attractive and well preserved landscape but do not threaten our most important natural heritage and which could with the application of appropriate measures harmonize with their environment to such an extent that their negative effects would not be fatal for the land. The third group includes those power plants whose construction is not objectionable from the point of view of environmental protection.

To the first, most controversial group of hydroelectric power plant projects, which are unacceptable from the point of view of environmental protection, belong the planned hydroelectric plants on the upper Soca River (Hydroelectric power plants Kobarid, Zaga, Krsovec) and hydroelectric power plants Osp and Planina. The Soca River has been designated as an exceptional natural momument of international stature and, moreover, harnessing the hydraulic power of the Soca River is in contravention with the draft law on the Triglav national park. The hydroelectric power plant Osip would affect the Skocjan Caves, which are a world renowned natural momument, while the hydroelectric power plant Planina would destroy our most beautiful field in Kras which is intended to become part of the Notranjska regional park and moreover includes a number of important national monuments such as, for instance, the Planina Cave, with its world renowned speleological fauna, the springs of the Malni and Ljubljanica Rivers and a few other caves and unique floral phenomena on its periphery.

The second group of hydroelectric power plants for which there still are reservations but which could with appropriate measures be reconciled with their environment are the hydroelectric power plants on the Mura River, and hydroelectric power plants Radovljica and Mavcice. In planning these we shall have to be very careful. The planned power plants on the Mura River (Apace, Radgona, Radenci, Ljutomer, Mursko Sredisce) can have an adverse impact on the unique system of dead-end channels, woods and meadows along the river, while the lakes behind the dams of the hydroelectric power plants Radovljica and Mavcice would affect the as yet nonurbanized area, which is becoming of increasingly greater value for tourism and recreation.

Hydroelectric power plants the construction of which is not controversial from the environmental protection point of view are those that are planned for the strongly urbanized areas of lesser environmental value or where the environment has already been damaged. This includes the series of hydroelectric power plants on the Sava River (Renke, Trbovlje, Suhadol, Vrhovo, Bostanj, Blanca, Krska, Libna, Brezice, and Jesenice) and the hydroelectric plants Solkan and Prevalje. Also noncontroversial is construction of hydroelectric power plants in less easily accessible regions which have not yet been damaged by man and which for lack of natural endowment have no special naturalist value. These include hydroelectric power plants Trebusa and Doblar II. The spatially least demanding construction are pumped storage power plants which only require relatively small storage basins. If they are located in valleys hidden between the mountains and forests that are difficult to reach they will have no substantial impact on the quality of the environment.

With respect to this classification of future hydroelectric power plants the Republic Institute for the Protection of Monuments proposes that the master plan and the order of construction of hydroelectric power plants be modified so that preference is given to construction that is not objectionable from the point of view of environmental protection.

12070
CSO: 5000

MITRE CHANNEL'S CONTAMINATED WATER DENOUNCED BY RESIDENTS

Buenos Aires CLARIN in Spanish 29 Jul 78 p 17

[Text] The serious harm caused by the contamination of the water over an extended stretch of the Emilio Mitre Channel and the excessive speed of some of the ocean going ships--endangering the safety of both persons and property--was denounced to CLARIN by one of the residents of the Parana Delta who also informed us of the problems which this has for some time been causing the entire population.

"It is truly a lack of community spirit and of hygiene," stated Mr Tomas Zsasz during the interview," by those ship captains who unload used fuel into the waters of the Emilio Mitre Channel, which is of course strictly forbidden. There is no control that will work," he remarked, "the captain's conscience is the only thing that counts."

The Emilio Mitre Channel, a project which was carried out 80 years after it was proposed by the engineer of the same name and which was inaugurated 16 December 1976, is 51 kilometers long, 130 meters wide and 30 feet deep at zero [sic], and since then has facilitated the navigation of seafaring ships between Buenos Aires and the Parana de las Plamas.

"For months there has been along the coast a black strip about 30 centimeters wide of pure petroleum discharged by ocean-going ships. Two years ago," Tomas Zsasz continued, "the water was free of contamination and the population, which, counting permanent inhabitants and week-end visitors approximated 70,000 people, drank it without risk, merely filtering out the sediment."

"Now, however," he adds, "all of those people are lacking water because of the contamination, which makes it impossible to drink it and which, in addition, makes impossible any sporting activity."

"The contamination of the waters," he stated, "can be observed in the Parana de las Palmas River, as far up as the Arias Channel, Carabelas and also up-stream, endangering our health, our safety, the flora and the fauna."

That important water route, also called a coastal channel, was considered before it was built--and today its importance is confirmed--to be a project essential to the agricultural development of Rosario.

However, alongside the undeniable economic importance--the Mitre Channel spares ships from going by way of Martin Garcia, thus avoiding navigaiton through the mouth of the Parana and Uruguay Rivers, while it shortens the distance to the ports on the shore, Rosario being one of them--the Parana de las Palmas area constitutes a potential tourist attraction of limitless resources, hence harmful factors such as the contamination of water, which could also be caused by wastes discharged by enterprises in the Campana or Zarate areas, can have serious and irreparable consequences.

The Emilio Mitre Channel--a long postponed project of national unification--had upon becoming operational an important effect on the regional economy, permitting a saving of $11 million annually by shortening the water route to Rosario by 50 kilometers.

Thus, parallel to the geoeconomic importance of the project there stands out the danger thretening its significance, caused by the contamination of the water.

Added to this danger, caused by the discharge of petroleum by ships from overseas, or by the wastes from the enterprises of Campana or Zarate, the inhabitants of Parna de las Palmas also denounced the excessive speed of the ships that navigate the channel. "Although they are becoming fewer," added Tomas Zsasz, "there is still no scarcity of boats like the bm Chaco ELMA which last 16 July at about 13 hours went up the channel at a murderous speed."

"Those of us who noticed it," he said, "untied our boats in order to set them adrift so we would not be smashed against the shore; this is what I and several neighbors did, alerted by shouts, as did also the interisland transit launch No 22 and several others. The waves," he continued, "were more than a meter high and I saw a launch capsize in front of the Laura resort. Then the sirens, horns and shouts started up, until finally, nearing the police post of Carapachay, the bm Chaco ELMA reduced its speed to normal in order to avoid prosecution."

9204
CSO: 5000

BRIEFS

HADERA POWER STATION--Knesset Member Yosef Tamir says that the power station in Hadera is liable to cause an ecological catastrophe if it is operated by coal. At a press conference convened by an oversight organization of bodies dealing with the quality of life in Israel, Yosef Tamir said that the power station will endanger vast agricultural areas in the Hadera region. However, coal can be used to operate the station if a dock for the direct unloading of coal is set up in Hadera and if sulphur filters are installed. Mr Tamir says the electrostatic pollution filters which the electric company pledged to install will not solve the problem. [Text] [Jerusalem Domestic Service in Hebrew 1100 GMT 13 Aug 78 NC]

CSO: 5000

HEAVY RAINS LEAVE PEOPLE HOMELESS

Addis Ababa THE ETHIOPIAN HERALD in English 20 Aug 78 pp 1, 4

[Text]

More than 200 persons in *kebele* 07 Higher 18 alone here in the capital remained homeless due to the heavy and devastating rain fall last night, Comrade Beshah Wolde-Yohannes, chairman of the defence squad of the *kebele* told our reporter on the spot.

According to the chairman, about three hundred residential homes have either completely or partially been washed away by the flood. And the occupants, most of them children, aged women and men were given aid by members of the *kebele* and the fire brigades for the centre the of town.

The victims were temporarily made to stay within the premises of the *kebele* secretariat office and St. Stephan Church. The actual damage is expected to be threefold, according to *kebele* officials.

The heavy rain that began in the form of a light shower early in the evening is estimated to cause heavy damages both on human lives and properties throughout the city.

A member of our reporter who was on duty last night had also witnessed a number of vehicles being stucked, crushed and overturned due to the rain. A mini volkswagen bus, near the old abattoirs was overturned and thrown off the road while trying to escape a tree falling. All passangers were however left unhurt.

The Ethiopian Television Service was forced to cut off its normal service from 7:10 up to 9:20.

Damages caused by the rain were expected to be high in Arat Kilo and other aeras where the situation was aggravated by a complete blockout.

CSO: 5000

HEAVY RAINS CAUSE DAMAGE IN ADDIS ABABA

Addia Ababa THE ETHIOPIAN HERALD in English 22 Aug 78 pp 1, 3

[Text]

The death toll has risen to 12 persons either drowned by floods or crushed under the weight of crumbling trees and walls following last Saturday night's heaviest rain recorded in and around Addis Ababa in 20 years.

The heavy downpour, lasting for nearly six hours which was accompanied by gusty winds from early Saturday night, inundated the lower areas of the capital city and those close to small rivers in several localities.

The meteorological service of the Air Transport Authority registered 93 millimetres on rain on Saturday, the highest in 20 years for Addis Ababa, surpassing that of 56.2 millimeters recorded in August seven years ago.

Gusty winds and the ensuing heavy floods cause much damage to homes, utility poles and pipes and also to parked cars.

Among those who died by drowning were Comrade Haile-Mariam Tesema, member of the revolution defence squad of *kebele* 28 in Higher 20, and three other men, who rushed to rescue a family in distress whose house was inundated. The family was saved by the four brave rescues perished.

Two youngsters in *kebele* 14, Higher two, in the vicinity of the Commercial Printing Press, were drowned as they were rushing home for shelter. An unidentified man was also found dead in the same locality in a flooded ditch.

A woman police corporal was found drowned in her flooded home in *kebele* 12 within Higher 12. The floods in this same locality caused heavy damage to many homes and property.

A five-year-old boy died when an uprooted tree fell on a house in *kebele* 03 in Higher six and an elderly woman died when her home caved in this same *kebele*.

A man slipped and drowned trying to cross the over-flooded Ginfile river in *kebele* 23 in Higher 15. Another man was found dead in a ditch in *kebele* 25 in Higher 14.

The floods which inundated the Filwoha area in particular caused heavy

damage to more than 20 cars parked near the hotel there. Some of the cars were swept down to the swollen nearby Bulbula river for distances of upto 60 metres.

Neighbours and residents where heavy floods occured had given tremendous help in rescue and search operations alongside police, fire brigade and other rescue teams. The extent of total damage to property has yet to be assessed.

Seventeen residences were completely flooded in *kebele* 23 in Higher five thereby making 96 persons homeless who are now given temporary shelters at the *kebele* office.

The damage in the *kebele* has been estimated at 25,000 Birr. A temporary relief committee has been established within *kebele* 23 in Higher five to provide the affected persons with basic necessities such as food and clothing. Members of the *kebele* women's association are giving invaluable assistance by cooking food and caring for children.

In Higher 6 *kebele* 03, the flood has destroyed four residences and slightly damaged seven others. Diverse property in the residences was swept away by the flood. The *kebele* residents pooled their efforts and resources together to help the affected persons. They collected displaced belongings, opened up ditches, and raised funds and delivered them to the homeless who are presently being given care in shelters. A committee has also been established to look after their well-being.

An ENA reporter who toured some of the heavily flooded areas on Sunday described the participation of youth in rescue and relief operations as very commendable. He saw youth groups treating victims, collecting properties washed away by rains, repairing roads damaged by floods and clearing canals.

Meanwhile, people affected by the torrential rains were advised to report immediately to the Addis Ababa Overall Urban Dwellers' Association the extent of damage to their property and the relief aid they need.

Discussion forums and mass organizations were also called upon to agitate and coordinate the people in their surroundings to extend assistance to alleviate the problem.

The relief aid should be channelled for the victims only through the Relief and Rehabilitation Commission, it was pointed out.

CSO: 5000

KIRIGU RIVER POLLUTED BY DEFECTIVE SEWERAGE SYSTEM

Nairobi DAILY NATION in English 26 Aug 78 p 32

[Text] Karatina Town Council was yesterday ordered to make sure it supplies clean water for the 30,000 people affected by its defective sewerage system.

The council was also ordered to construct an extra treatment plant at Kirigu River, which has been polluted by the existing scheme.

The order was made by Karatina magistrate, Mr John Wairoto, after public health officer, Mr Bernard Kirutti had filed a suit against the council.

The court refused to deal with matters raised during the hearing concerning the use or misuse of money allocated for Karatina's sewerage project.

The court ordered the council to do the following: Make Repairs at Kirigu river as soon as possible to the satisfaction of the public health officer. Repair all defective pipelines along Muthua/Kirigu rivers. Remove all the pipes laid under the rivers. Construct a sewerage treatment plant along Kirigu River. Consider supplying wholesome water to the people affected by the position, to the satisfaction of the public health officer.

CSO: 5000

BRIEFS

HUNTING OF SIX ANIMALS PROHIBITED--The hunting of six species of wild animals is prohibited in Niassa Province; namely, gnu, hippopotamus, buffalo, antelope, crocodile and impala, in addition to those animals already prohibited by the hunting regulations published last month. Prohibition to hunt these animals is owing to the fact that it has been ascertained that there is danger of extinction of these animals in Niassa Province, caused by the indiscriminate killing to which those species have been subjected, in addition to other factors. [Text] [Maputo NOTICIAS in Portuguese 26 Jul 78 p 3] 10042

CSO: 5000

OBASANJO URGES MEASURES AGAINST DESERT ENCROACHMENT

Lagos DAILY TIMES in English 18 Aug 78 pp 1-2

[Article by Tony Nzotta]

[Excerpt] About 12 per cent of the total land area of Nigeria is seriously threatened by the encroachment of the Sahara Desert.

In Sokoto State alone, desert conditions now extend for about 240 kilometres south of the Nigerian border.

This situation has rendered about 17,000 square kilometres of farmland almost barren.

Disclosing these facts yesterday, the Head of State, Lt.-General Olusegun Obasanjo, warned that the threat had become "a matter of life and death."

He was launching the "Arid Zone Afforestation Programme in Nigeria" in Sokoto.

Desert conditions had extended to the extreme northern parts of Kaduna, Kano, Bauchi and Borno States, General Obasanjo said.

"As you know, most of our people live by farming and the loss of farmland is therefore a very serious matter", he declared.

While the desert problem was threatening the north, "other critical cases of water erosion, wind erosion and flooding abound in several parts of the country," he said.

Gen. Obasanjo named the hardest-hit states as Anambra, Imo, Oyo, Benue, Plateau, Bendel, Lagos, Cross River, Ogun and Rivers.

Irrigation

He then called on the Federal, state and local governments, traditional rulers, community leaders and individuals to "join in this crusade" against the destruction of our soil.

"The Federal Government is committed and determined to preserve and conserve our limited land heritage for this generation and generations yet unborn", he declared.

He reviewed past efforts to combat the twin dangers of dryness and erosion and stressed that as from now, it should be regarded as "a development programme".

It would be closely integrated with the rainfed and irrigation development programmes for agriculture as well as the livestock and fishery programmes.

To this end, a National Committee on Arid Zone Afforestation had been set up under the chairmanship of Dr Ango Abdullahi of Ahmadu Bello University.

Each of the affected states would have a state afforestation committee consisting of professional forestry officials and other experts "to prosecure the programme on a day-to-day basis."

A unit of this committee in each local government area of the affected states was also being completed.

The Federal Government released ₦2 million last financial year to enable the project take off. More money had also been voted to supplement communal and other efforts this year.

General Obasanjo noted that a national committee on soil conservation had been set up to deal with flood, silting and management of catchment areas.

An international team of experts had also been engaged to study soil erosion and recommend measures to combat the menace in affected states.

He appealed for modernisation of our cooking habits "so that we can move away from using the traditional firewoods to the use of hydro-carbon products" to help preserve plant life and vegetation.

In future, government intends to provide gas and kerosine in sufficient quantities for domestic use. Steps are being taken to increase the manufacture of kerosine stoves locally.

He also warned against forest fires, over-grazing of pastures and prolonged use of traditional farming methods in the semi-arid areas of the country.

Menace

The Head of State appealed to all citizens to augment government efforts by planting trees to check further advance of the desert and improve the environment and quality of life.

CSO: 5000

UNIQUE ENVIRONMENTAL PROBLEMS OF THE CASPIAN SEA: OIL

Baku BAKINSKIY RABOCHIY in Russian 16 Jul 78 p 3

[Article by V. Zhuchkov, captain of the first supply rank: "Concern for the Caspian"]

[Text] The Caspian Sea is the planet's largest enclosed reservoir that does not have a flow into the world's oceans. In area it is comparable to the Baltic and the Black Seas. The economic and social importance of the Caspian is great, and its problems are also great. The first of them whose solution cannot be delayed is the prevention of pollution of the sea. For its lack of drainage and lack of connection with the ocean makes the Caspian especially vulnerable to pollution. This is why the welfare and health of the unique sea has long become a subject of daily state concern. In the last decade the USSR Council of Ministers adopted two decrees: "On Measures to Prevent Pollution of the Caspian Sea" (1968), and "On Additional Measures to Protect the Caspian Sea from Pollution" (1977). In the second document the government of the union noted that the discharge of untreated sewage and wastes of production had been decreased; this had been achieved as a result of the construction of water-protection and purification plants at the enterprises and at the populated points of the Caspian basin.

Much has been done also in Azerbaydzhan. At the maritime oil fields measures have been implemented to prevent the drainage of oil and chemical reagents. Together with the main well if necessary a special absorbing well is made for the wastes that are made in the process of drilling. The association "Kaspmorneft'" has created the administration for underwater-technical works and protection of the sea from pollution. This organization controls the condition of the well, the hydraulic works, and the oil-and-gas pipes for their timely repair, and elimination in the water area of accidentally neglected oil. The majority of the ships with displacement over 500 tons have been equipped with devices to eliminate discharge overboard of oil-containing and domestic sewage. In the ports and at a number of maritime industries there are tanks for contaminated waters, and stationary and floating oil-cleaning stations, and ship oil and garbage collectors are in

operation. A large complex, Bol'shoy Baku, has been created from the treatment plants. At the enterprises of the maritime cities a considerable number of treatment facilities and circulating (closed, without drainage) systems of water supply have been constructed. Already three-fourths of the shops in the oil refining industry of the republic have been equipped with such systems. In this branch apparatus of air cooling have been introduced more and more, which makes it possible to sharply reduce the technological needs for water and its discharge into the sea.

We are gladdened by two circumstances. Despite the steady growth in industrial production in Azerbaydzhan the consumption of water by enterprises on the whole for the republic has been significantly reduced. The hydrometeorological observatories that are conducting an observation of the sea note a significant decrease in its degree of contamination.

However, as stated in last year's decree by the Council of Ministers measures that have been taken are still insufficient to guarantee the necessary cleanliness of the sea. The government obliged the Councils of Ministers of the Caspian republics and those adjacent to it to implement jointly with the ministries and departments of the USSR a set of measures which must guarantee by 1985 complete cessation of the discharge into the rivers and other reservoirs of the Caspian Sea basin untreated industrial, agricultural and domestic sewage. A strict order of work has been established associated with the exploration and utilization of natural resources of the bottom and its depths on a technical level that excludes pollution of the waters and a harmful effect on the living resources of the sea.

According to the reports of the Azerbaydzhan basin administration for the regulation of the use and protection of the waters individual enterprises of three ministries of the USSR have not coped with the tasks--oil refining and petrochemical, chemical, and oil industry, and a number of the facilities of the Ministry of Municipal Services of the republic. The Baku oil refinery imeni Karayev, facilities of the Ministry of the Petrochemical Industry, related to the transfer of the maritime bulk oil beyond the limits of Baku, treatment facilities of the same ministry in Gyuzbek, the oil-and-gas-extracting administration of "Karadagneft'," and pipe-rolling plant in Sumgait are especially behind the schedules of the implementation of the decrees on the protection of the sea. Despite the prompt and energetic measures taken recently by the association "Sumgaithimprom," several of its enterprises still remain sources of pollution of the Caspian and the region of the city.

The majority of the questions of protecting the sea can be solved at the sites with systematic control. In a number of cases the active help of the union ministries and departments is required. For example, the Caspian fields still receive insufficient oil-and-gas extracting equipment of marine design, that is of increased strength in order to more reliably withstand the elements. Not all the operating wells have been equipped with automatic and remote control devices--signaling, switching, and shutting off the supply of oil during disturbances in the normal flow in the process of extraction. For the successful fulfillment of all of its numerous and important tasks the

administration for underwater-technical works and protection of the sea from pollution must be better equipped.

From the television and press everyone knows well what misfortunes and damages are brought by the spread of tens and hundreds of thousands of tons of oil during accidents of tankers and marine wells. Fortunately the Caspian has avoided such a tragedy. But this should not reassure anyone. The extant service for controlling possible spills must be perfected. Now it is separated into several departments, is insufficiently equipped, and does not have a single leadership. In our opinion it is expedient to unite all the forces into a powerful consolidated team, to equip it with modern technology, and subordinate it to a interdepartmental headquarters in an operational sense.

It is very important to increase the responsibility of the citizens for the welfare of the Caspian, from supervisors to the ordinary workers. At each enterprise that discharges water into the sea rules should be compiled for prevention of pollution, and they should be studied in the same way as safety rules, and they should become a part of knowledge. Posts of people's control (selected or designated) are necessary. The inventors and innovators are capable of a lot, but it is necessary to present them with specifically related tasks to eliminate the sources of pollution, and introduce circulating water supply and waste-free technology of production.

To act prudently towards nature, towards our sea, to be their defender, to actively oppose carelessattitudes towards natural resources, and the beauty of the environment is the constitutional duty of each Soviet person. At the same time you see how the recreationers pollute the beaches and sea with waste, how the sorry hunters dive with underwater weapons and practice shooting bottles, as sometimes ship repairers who have poorly cleaned the dock before the launching of a ship obstruct the water area with floating garbage... Now it is the swimming season, and it is required on the beaches to raise gaudy signs that appeal for a maintenance of cleanliness. It would be well to commission the life-saving service on the waters and the militia posts to be concerned also about preventing pollution of the beaches and sea.

The press, television, radio, cinematography, and the society "Znaniye" could do much more than today, to propagandize the idea of protecting the nature of the Caspian basin.

The socialist structure of our native country, and the new Constitution of the USSR and Azerbaydzhan SSR create the broadest potentiality for solving any--even the most complicated--problems of the Caspian Sea.

9035
CSO: 5000

MOSCOW ENVIRONMENTAL PROGRAMS DISCUSSED

Moscow EKONOMICHESKAYA GAZETA in Russian No 23, Jun 78 p 17

[Article by V. Konovalov, deputy chairman of the ispolkom of the Mossovet: "Moscow: Concern for Nature"]

[Text] Sanitation of the environment in the capital is a component part of the task set before the Muscovites to convert Moscow into a model communist city. An important stage in its realization is the general plan for development of the capital which provides for a broad complex of measures for the sanitation of the air basin, the removal and reprofiling of a number of enterprises that are harmful in a sanitary respect, elimination of pollution of the soil and reservoirs, and the landscaping and public welfare of the territory.

Five years ago the session of the Moscow Soviet adopted a decision to improve environmental protection in Moscow. During these years extensive work has been done. According to the plan of socio-economic problems of the development of Moscow, the comprehensive development of industry and municipal services, major measures have been implemented for the reconstruction and typical reequipping of industries, the perfection of technological processes of production, the development of municipal services, and the improvement of planning and public welfare of the city.

For the coordination of the activity of the enterprises and associations formed the Moscow Interdepartmental Scientific and Technical Council for Environmental Protection. In the work of the council, scientists, supervisors of a number of the main administrations of ministries and departments, directors of enterprises take an active part.

In the current Five-Year Plan five times more resources than in the last Plan have been isolated for environmental protection measures for all sources of financing. In recent years at 271 enterprises 1,134 gas-purifying and dust-collecting units have been constructed, reconstructed, and put into operation, powerful facilities for treating industrial and surface waters have been put into production, and more complete production

processes have been introduced. Extensive work has been done for the public welfare and landscaping in reduction of the noise level. The western and southern sewage systems with biological treatment of sewage have been put into operation.

More and more attention is being focused on the sanitation-hygienic maintenance of the city, and reprocessing and disposal of domestic wastes and wastes of production.

Wastes--The Concern

In the opinion of specialists the use of the greatest part of wastes as secondary resources is technically implementable and economically profitable. Here it should be kept in mind that replacement of raw material with secondary considerably reduces pollution of the environment. For example in the production of paper for cardboard from waste paper atmospheric pollution is reduced by 73%, water by 25-44%, the quantity of solid wastes is decreased by 39%.

With an increase in the quantity of garbage, outlays for its collection and disposal are constantly increasing. More and more land is required for dumping. At the same time new dumps must be located at a distance not less than 100 km from the city, and this means that it is necessary to construct special roads, and considerably increase expenditures for transportation.

These large expenditures can be avoided by centralized reprocessing of the garbage at major enterprises. In Moscow two garbage-reprocessing plants of total capacity 900,000 m^3 per year are already in operation, and an incinerator is being constructed. Construction has been completed on the first phase of a centralized vacuum system for collecting and transporting domestic wastes in the residential microrayon, Chertanovo-Severnoye.

For Clean Air

In the capital transportation is developing at rapid rates, especially automobile. Due to this the question becomes acute of protecting the air basin of the city from exhausts.

In the city's automobile plants measures are being taken to improve the operation of motors, and to introduce control over the content of harmful substances in exhausts. Introduction of bottle-gas driven automobiles that operate on a less toxic motor fuel--liquefied propane-butane gas has begun. Already 5,000 such automobiles are operating and by 1980 their number will increase to 14,000-15,000.

The Glavmosavtotrans [Main Administration of Automobile Transportation of the Mosgorispolkom] jointly with the Minelektrotekhprom [Ministry of Electrical Equipment Industry] and the Minavtoprom [Ministry of Automotive Industry] is conducting work to create and introduce electric cars. Currently an experimental industrial batch is operating. At the commission of the Goskomitet [state committee] for science and technology the Glavmosavtotrans has created

on the basis of one of its enterprises an experimental facility for the operation and servicing of the electric cars, as well as a center for training the appropriate specialists.

Automotive neutralizers are effective in purifying exhausts. They are compact and inexpensive. The neutralizers make it possible to purify exhausts of automobiles from carbon monoxide and hydrocarbons by 85-95%. Their introduction in all the automobile transportation enterprises of the city will make it possible to reduce the content of carbon monoxide in the atmosphere to the level of the maximum permissable concentration.

One of the conditions for the efficient protection of the air basin of the city from pollution is the perfection of control over the condition of the atmosphere. Taking this into consideration the ispolkom of the Mossovet [Moscow City Soviet of Peoples Deputies] adopted a decision "On the Development and Introduction of an Automated System or Observation and control of the Environment ANKOS-A".

Round-the-clock information will enter the center for collection and processing of information that includes a dispatching point, computer complex and chemical laboratory to detect the offenders of increased pollution of the atmosphere in any region of the city. The composition of ANKOS-A provides for working groups equipped with autolaboratories with an extensive set of gages.

With the help of the system it will be possible to more objectively make short-term and long-term prediction of the pollution level in the air, and develop specific proposals for the sanitation of the air.

The concern of the Muscovites for green plantings is generally known. Now their area comprises 34,700 hectares or 35% of the city's territory. For each resident of the capital there is 44 m^2 of plantings. Annually in Moscow over 700 hectares are relandscaped.

In the city work is being done to control noise. At the enterprises its level has been reduced to the sanitation norms. On individual streets where children's and medical institutions are located truck traffic during the night is forbidden.

The scientific institutions are playing an active role in environmental protection in Moscow. For example, the collectives of the Academy of Municipal Services, "Mosvodokanalniiproyekt'" [Scientific Research Institute for the Planning of Water Supply and Sewer System Installations of the Mosgorispolkom], VNIIVODGEO [V.V. Kuybyshev Moscow Construction Engineering Institute] are operating fruitfully.

Especial attention is being focused on the creation of systems of circulating and reuse of water at the industrial enterprises. The institute "Mosvodokanalniiproyekt'", for example, has developed the unit "Kristall"

which can be used in the automotive plants of the city for circulating water supply for washing cars.

Scientific studies also encompass the problems of improving the fuel balance of Moscow for the purpose of reducing harmful discharges into the atmosphere, study of the patterns and methods of burning different types of fuel with regard to the ecological requirements, and purification of exhausts. Means and instruments are being developed for testing and analyzing the products of discharge into the atmosphere. As an example one can name the instrument "Evdiometr-1" developed in the ENIMS [Experimental Scientific Research Institute of Metal-Cutting Machine Tools], which is designed to analyze nitric oxides in flue gases.

Modern methods of extracting valuable components from domestic and industrial waste are being developed by the All-Union Planning-Design and Technological Institute of Secondary Resources.

The first scientific and practical conference on environmental protection which took place in Moscow in April of this year worked out the recommendations for the Moscow enterprises, organizations, and institutions to improve environmental protection. Measures have been planned for the further improvement of the sanitation condition of reservoirs and sources of water supply, protection of the air basin in the capital from pollution, and recovery and disposal of wastes.

9035
CSO: 5000

RIVER POLLUTION REDUCED IN KAZAKHSTAN

Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 19 May 78 p 4

[Article: "The Rivers Have Become Cleaner"]

[Text] The water area and floodplain of the Ural River are included in the preserve zone of the northern section of the Caspian Sea. With the help of scientists an extensive program has been developed to improve the cleanliness of this unique river, the country's largest sturgeon spawning ground. It provides for complete cessation of discharge into the Ural of untreated domestic and industrial sewage.

At the industrial enterprises of the adjacent oblasts, construction has begun of efficient treatment plants and disposal units. The first of them has been put into operation. Thus, the V. I. Lenin Oil Refinery has completely stopped polluting the river with its effluence due to the conversion to a circulating system of water supply. Major water-protecting facilities have been constructed at the Gur'yevsk fish-canning combine, the gas-compressor plants of the production associations "Uraltransgaz," and "Saratovtransgaz" in the shipping port of Valykshi. This will guarantee a stable growth in fish supplies of the Ural-Caspian basin.

Many rivers and reservoirs of Kazakhstan have acquired their original cleanliness. Fish have begun to spawn even in the gulf of Lake Balkhash where used water after mechanical and microbiological treatment has been discharged by the Balkhash mining and smelting combine.

"A reduction in pollution is a result of the tireless concern for environmental protection," the correspondent of KazTAG was told in the Gosplan of the Kazakh SSR. "For these purposes almost double the resources have been isolated from the state budget in the Tenth Five-Year Plan as compared to the Ninth."

9035
CSO: 5000

TOXIC CHEMICALS AND FISH

Frunze SOVETSKAYA KIRGIZIYA in Russian 4 Aug 78 p 4

[Article by A. Kan, inspector of the Frunze Inspectorate for Fish Conservation of the Eastern Central Asian Piscicultural Administration: "Handle With Care: Toxic Chemicals!"]

[Text] The Frunze Inspectorate for Fish Conservation revealed serious deficiencies in the application of toxic chemicals in the Chu valley. In particular, during April and May of this year fish perished in the Kaldyk pond of the Kolkhoz imeni Lenin and in the pond of the Kolkhoz Komintern in the village of Poltavka in the Kalininskiy Rayon. Analysis of the water and the dead and lifeless fish indicated that the fish loss took place due to contamination by polychlorocamphene applied for crop treatment. The culprits in the fish loss at the first pond turned out to be the chief agronomist, the entomologist-agronomist and the tractor drivers of the Kolkhoz imeni Lenin. For their carelessness they were fined. It has not been established who was guilty for the fish kill at the second pond.

The Byelovodskiy detachment for the protection of plant life, having toxic chemicals at their disposal at various times, is deployed in immediate proximity to the Great Chu Canal and another irrigation canal. It has a chemical agent warehouse directly next to the Great Chu Canal (among fields of crops) and the Kolkhoz Zavety Lenina in the Kantskiy Rayon. The question arises why is it necessary to place these potential sources of environmental contamination so close to the Great Chu Canal? Do we have to bitterly regret this in the future?

On 21 May 1978 the workers of the Frunze Inspectorate for Fish Conservation established that there was the beginning of a fish kill in the bay of the Chu River. A commission was immediately convened to inspect this water resource. It was determined that the day before massive amounts of manure and dungwash resulting from improper operation of the manure storehouse were dumped from the dairy farm of the Sovkhoz imeni Karl Marx in the Alamedinskiy Rayon (the investigation was conducted in the presence of a representative of the sovkhoz and the Oktyabr'skiy Council of Agricultural Cooperative Centers). The fish loss amounts to 3,463 rubles and 29 kopecks.

All this attests to the fact that the managers and workers in agricultural production do not attach the necessary significance to adhering to precautionary measures in handling toxic chemicals. They did not organize work at the obligatory level in accordance with the specific orders from the Kirgiz SSR Ministry of Agriculture, the Kirgiz SSR Ministry of Land Reclamation and Water Management, and the basin administration of the Eastern Central Asian Piscicultural Administration of the USSR Ministry of the Fish Industry.

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CSO: 5000

INFLUENCE OF CHEMICALS ON CROPS--CHANGE IN PROPERTIES

Vil'nyus SOVETSKAYA LITVA in Russian 16 Jul 78 p 2

[Article by K. Yankyavichyus, director of the Botanical Institute of the Lithuanian SSR Academy of Sciences: "The Fruits of Cooperation"]

[Text] For thousands of years man has studied plant life. Over this period he has been able to select and cultivate about 2,500 distinct varieties from the wild flora. This useful activity continues. A major contribution in this matter is being made by the botanists in our country, including those of Lithuania. With the aid of the latest methods we study and select the most economically promising varieties from the world's and our own local stocks. This is because the practical application of scientific achievements is one of today's major tasks.

In practice the work of our institute is to conclude agreements on creative cooperation with industrial enterprises, farms, etc. And so, when fulfilling work on an agricultural subject we maintain close ties with the Lithuanian Scientific Research Institute for Agriculture. Our specialists on the study of plant resources conduct research on new feed plants together with the workers of the Perloyskaya experimental station and with the feed grass selection center in Dotnuva. And the Sovkhoz Shal'chininkay, according to technology by the institute, is presently successfully introducing a productive new plant, Veyrikha Knotweed, which can be used in the production of grass meal.

A long-term agreement on joint research was also signed with the Igevskaya selection station of Estonia and the Stengdeskaya selection station of Latvia.

Similar cooperative research is reducing the time from completion of scientific research involved in a successful experiment to its practical introduction and, at the same time, increasing the efficiency of scientific work. For example, plant pathologists recently have prepared measures to be introduced to reduce losses caused by diseases in young lupine plants. These are effective recommendations. After their realization the harvest of lupine seeds increased by more than 10 percent.

For a long time the republic's farms yielded a beet harvest having decayed cores. In order to explain the reason for such a phenomenon the farmers turned to science for help. Our scientists established that in Lithuania the sugar beet is enriched by boraic fertilizer. A lack of boron creates favorable conditions for decay of the sugar beet core. Therefore, the scientific help turned out to be very effective.

Let's not forget hothouse farming. The institute's workers have proposed various processes for steaming the ground in greenhouses.

The scientists, the plant physiologists of our institute, are also conducting research with many scientific organizations, for instance, the Institute of Experimental Botany of the Byelorussian SSR Academy of Sciences, the Kurganskiy Scientific Research Grain Institute and our republic's Scientific Research Agricultural Institute. With our overall efforts we are striving to find new methods in the struggle to combat the beating down of barley.

Our genetecists maintain working relationships with many institutions, for example, the Institute of Chemical Physics of the USSR Academy of Sciences, the Institute of Cytology and Genetics of the Byelorussian Academy of Sciences, the Institute of Medical Genetics of the USSR Academy of Sciences and the Botany Institute of the Ukrainian SSR Academy of Sciences. Agreements were signed with these institutes on creative cooperation with the aim of selecting new and more practical mutations. What is important and now being done is the evaluation of the mechanism in the activities of mutations, because having understood this, it might be possible to obtain mutations of new plants in a shorter period and with earlier programmed properties.

At present when agriculture is applying large amounts of active chemical substances, the agricultural crop itself is not sustaining this "process." It changes taking on new and harmful agricultural properties. Therefore, ignorant use of strong mutations can lead to undersirable effects. And in this matter the botanists stand guard.

Annually the institute introduces up to 30 proposals into industry having a major economic impact. It's true that the economic effectiveness of our work cannot always be possible to evaluate. Let's even take floristic work. And so, last year we issued the next to last, the fifth volume of "The Flora of the Lithuanian SSR." This major work contains 600 pages. It describes many varieties of plants, cites information about their chemical make-up and their practical significance.

The same could be said about another of the institute's volumes devoted to plants used for seasoning. It recently appeared in print. It describes plant condiments which might be cultivated under our republic's climatic conditions. Such a publication is needed by agronomists, amateur gardeners, public nutrition specialists, by the food industry, and finally, by the housewife. Our collective annually issues several works of a similar nature. They correlate the results and the experiences of the studies conducted by the scientists.

The subject of cost accounting has occupied a solid position in our institute. The sectors and laboratories last year concluded cost accounting agreements with organizations both within and outside the republic amounting to an overall sum of 340,000 rubles.

This year this amount has risen significantly. According to agreements, major research is being carried out and proposed recommendations are yielding appreciable benefits to the nation's economy.

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BRIEFS

ESTONIAN ENVIRONMENTAL PROTECTION EQUIPMENT--Tallin--The presence in the 10-ton cistern of water of even drops of nitrogen, sulfur or chlorine is determined by a detector created by the Estonian scientists. Having made an analysis of the mixture with it one cannot only find out the presence in it of a given substance, but also exactly determine its quantity, even if it does not exceed billions of a fraction of a gram. Instruments of selective detecting--this is the name for the selective determination of ultrasmall quantities of chemical substances--have been created in a special design office of the Estonian SSR Academy of Sciences. They are employed to determine residues of toxic chemcials in the soil, water and air, to analyze smoke discharges in selecting the best fuel combustion pattern, and to analyze the qualities of metals. An advantage of such detectors is that it is no longer necessary to use the labor-intensive operation of preliminary calibration of instruments. The percentage content of a substance in any volume of liquid or gas is immediately visible on the digital signal panel. [Text] [Tallin SOVETSKAYA ESTONIYA in Russian 16 May 78 p 1] 9035

SEA-CLEANING SHIPS--Zhdanov (Donetskaya oblast)--The manufacture of ships designed to clean the sea of oil wastes and garbage has been developed at the local ship repairing plant. Yesterday the first "Sanitar" (orderly), which is capable of operating not only in the water area of the port, but also on the outer roadstead was sent to the Georgian Maritime Steamship Company. By the end of the Five-Year Plan all the country's ports will be equipped with such vessels. [Text] [Moscow GUDOK in Russian 19 May 78 p 1] 9035

WASTE DISPOSAL--Areas covered with garbage--this is how we usually imagine the municipal dump. Specialists in the Department of Sanitation of Cities of the Pamfilov Academy of Municipal Services have proposed changing this unattractive picture. The scientists have achieved isolation of wastes from the subsoil waters, and have reliably protected the environment from pollution and the penetration of harmful substances. "Our method," stated the supervisor of the department V. Raznoshchik, "can be employed practically in all cities of the country. It reduces 2-3-fold the areas set aside for the location of domestic wastes, and improves the overall sanitary condition of the populated points. This was confirmed by the recent experiments in Orel." The developments of the colleagues in the department are not limited to questions of "storing" wastes. For a number of years studies have been conducted on their optimal use in the national economy. The recommendations of the specialists made it possible to create in Leningrad and Tashkent plants to manufacture organic fertilizers and biological fuel from the wastes. Now analogous enterprises are being erected in Alma-Ata, Gor'kiy, and Minsk. In Vladimir a plant is being constructed to burn wastes with recovery of fuel. [Text] [Moscow IZVESTIYA in Russian 15 Jun 78 p 2] 9035

AUTOMATIC CONTROL SYSTEM AGAINST FIRE--In the Leningrad Scientific Research Institute of Forestry a draft has been developed for the first phase of an automated system for operational control of forest protection. Now the 17 territorial air bases protect the country's forests from Petrozavodsk to Magadan, and from Murmansk to the southern borders. About 10,000 air firemen conduct a vigilant watch service. They have at their disposal hundreds of airplanes and helicopters. Nevertheless, despite such a powerful army, fire control until now has consumed many forces and resources. The Leningrad scientists have developed a draft for an unusual ASU [automatic control system] which will significantly facilitate the work of the firemen. It has been found that from 50-95% of the country's fires occur only in 2-3 oblasts. And in the oblasts--2-3 rayons. In different years these are different oblasts, and rayons. A lot, as a rule, depends on nature. The automatic control system will store in its memory all the data on the weather for the last several years in a certain rayon, the characteristics of all the fires that ever occurred, and the value of the forest. Annually the ASU will begin to reprocess new information on the force of the wind, moisture content and air temperature. Depending on these conditions the complex will "play through" all the possible fire-dangerous situations which could occur, and will produce for the observers the optimal pattern of operation for the day. [Text] [Moscow IZVESTIYA in Russian 17 Jun 78 p 3] 9035

BOTTLED-GAS DRIVEN CARS--On the capital's streets there are already many cars running not on gasoline, but on bottled gas. The first to appear in Moscow were the bottled-gas driven trucks GAZ-53-07 and ZIL-138. The automobile plants of the Glavmosavtotrans [Main Administration of Automobile Transportation of the Mosgorispolkom] began to use them. Then the first taxis operating on the blue fuel GAZ-24-07 arrived. And recently from the gates of the No 10 bus fleet the first 10 bottled-gas driven LIAZ-677G's were sent on the regular runs along the city routes. Among the models of bottled-gas driven vehicles one can also name the L'vov buses LAZ-695P. The supply of blue fuel in the modern bottled-gas driven vehicles, notes VECHERNYAYA MOSKVA, guarantees mileage no less than in the machines that operate on gasoline. However the motor on blue fuel is more economical than the gasoline, it runs more quietly, and wears out slower. [Text] [Moscow ZHILISHCHNOYE I KOMMUNAL'NOYE KHOZYAYSTVO in Russian No 2, Feb 78 p 13] 9035

PHOTOGRAPHY OF SMOKE--This instrument which has been created by the young Moscow innovators will render considerable assistance in protecting the cleanliness of the air space. It is sufficient to direct the lens at the opening of a plant pipe and on the scale of the instrument data will appear on the composition of the discharged gas or smoke, and their temperature. Moreover with the help of the instrument one can obtain immediately a photograph of the source of atmospheric pollution. Thus the instrument helps to document control, and at the same time fight against violators. [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 20 Apr 78 p 4] 9035

BALLOON-BORNE MEASURING COMPLEX--The atmosphere of our planet still holds many riddles. In the P. N.Lebedev Institute of Physics a balloon-borne measuring complex has been developed and created. The light, gas-filled shell lifts to an altitude of 30 km an entire scientific laboratory that operates on automatic pattern. The main purpose of the instruments is to study the spectral and angular characteristics of atmospheric radiation in a broad range of wave lengths: from 2 to 120 microns. The precision of the measurements required special technical equipment--infrared optics and receivers of radiation were equipped with a special cryogen system that maintains temperatures of 77, 50 and 15 degrees on the Kelvin scale. [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 20 Apr 78 p 4] 9035

TALLIN WATER TREATMENT PLANT--In Tallin a new structure of the water treatment plant with throughput of water of 120,000 m^3 of water per day has been put into production. The needs of the city for drinking water are completely provided for, and the quality of the water has been significantly improved. Control of all the processes at the plant has been completely automated. [Text] [Riga SOVETSKAYA LATVIYA in Russian 26 Jun 78 p 4] 9035

LENINGRAD PLENUM ON ENVIRONMENTAL PROTECTION--LenTASS--Questions of improving the role of the public in implementing a set of measures to sanitize the air basin of Leningrad were examined yesterday at a plenum of the oblast and municipal organization of the All-Russian Society of Environmental Protection. M. Ye. Berlyand, professor of the A. I. Voyeykov Main Geophysical Observatory gave a report. The participants of the plenum noted that in recent years over 900 gas-purifying and dust-collecting units have been reconstructed and put into operation, and over 40 of the especially harmful productions have been closed. At the same time the plenum stressed the need for a broader scope of work in environmental protection. Measures were planned to intensify the propaganda activity in the labor collectives, and to improve contact between society and the administration of enterprises. The deputy chairman of the ispolkoms of the Leningrad oblast and municipal Soviets of People's Deputies V. N. Smirnov, and I. A. Nosikov participated in the work of the plenum. [Text] [Leningrad LENINGRADSKAYA PRAVDA in Russian 17 May 78 p 3] 9035

PROTECTION OF THE BALTIC SEA--ETA--The second meeting of the special working group for criteria and standards for disposal of harmful substances into the sea which took place within the framework of the temporary commission for protection of the marine environment of the Baltic Sea was completed 26 May in Tallin. Representatives of the countries of the Baltic coast participated in it. The meeting was opened by O. Valing, chairman of the State Committee on Land Reclamation and Water Resources of the Estonian Council of Ministers. Urgent questions were discussed on determining the permissible load of discharges of municipal and industrial sewage that does not threaten the marine environment. During the discussion the participants of the meeting

achieved success in a single approach to solving the given problem. Here mathematical models of predicting quality of the marine water proposed by the scientists of the USSR and Denmark were used. The participants became familiar with the scientific and research work on water protection that is being conducted in the Tallin Polytechnical Institute and the Institute of Thermal Physics and Electrophysics of the ESSR Academy of Sciences. [Text] [Tallin SOVETSKAYA ESTONIYA in Russian 27 May 78 p 3] 9035

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ELEVSINIANS DETERMINED TO CLEAN UP POLLUTED ENVIRONMENT

Athens TA NEA in Greek 9 Aug 78 p 5

/Article by Sotiris Stanotas/

/Text/ "The inhabitants of Elevsis would like to believe that the minister of social services will not limit himself only to fact findings, but that he will do what he can so that we can stop living under death-like conditions..."

This is a statement to TA NEA by the mayor of the most polluted city in Greece--Elevsis Mayor Mikhalis Levendis--who together with other local leaders told Social Services Minister Sp. Doxiadis during a special conference Saturday of the need for drastic measures to fight environmental pollution caused by industries in Elevsis.

As gynecologist K. Sassanis had warned in an interview with TA NEA on 5 January, in Elevsis "the pollution is destroying future generations." And during a conversation with colleague Basilis Kavvadas, Sassanis had said: "In recent years, the births of abnormal children have increased The abortions have also increased and pollution must be the cause..."

Two days ago the minister of social services confirmed this situation and stated that all measures will be taken.

What Will They Do?

What will the Elevsinians do now? We submitted this question to representatives of organizations and to officials and primarily to Mayor Mikhail Levendis, who said:

"We are as deeply concerned with the Sassanis findings as is the minister of social services to whom Sassanis has spoken. We believe that no further margins exist. The minister has promised to have the ministry's data measurement station reestablished in the area and that specialists will soon begin in our city epidemiological studies on children of school and pre-school ages.

"We have also asked the minister to see that the bill on pollution be introduced to the Chamber of Deputies because, according to statements by officials, this bill should have been introduced on 15 March but nothing has been done yet...

"The residents have come to understand the problem in all its dimensions. Yes, we do understand this problem and to a great extent we own it to the press and especially to TA NEA which are continually reporting this unacceptable situation created by interests of the industrialists in Elevsis. And be sure that if nothing happens this time, the residents will react violently."

"Are you optimistically inclined as a result of the meeting with the social services minister a few days ago and of the assurances he gave you that measures will be taken?"

"Unfortunately, I cannot say 'yes.' I fear that /what he has said/ may remain just promises because, in fact, one must fight the immense interests of the industrialists. However, the fact that the pollution problem is acknowledged is a positive step if one takes into account that up until now everyone has tried to convince us that an environmental pollution problem did not even exist."

Elevsis has 30,000 residents and the area around the Thriasion plain has around 60,000. Of these, 15,000 to 20,000 are children under 15 years of age who live in the jungle of dust and wastes from 800 small and large plants, among which there are 2 refineries, 2 shipyards, 2 blast furnaces, 3 cement plants, 3 steel factories and others which surround the city in a radius of 8 to 10 kilometers...

"If nothing happens, following the obligation the minister assumed, then Elevsis will die," said the president of the city's Labor Center Khristos Spyropoulos, who added:

"Before any steps are taken, however, let everyone be aware that the residents will do all they can to survive. Among them are the working people in these factories who will go on strike and stop everything completely if this situation continues. Two days ago, those working in the refineries decided to go on strike if by the end of the year the installations for cleaning the wastes are not in operation..."

"After last Saturday's meeting are you satisfied that the appropriate authorities are willing to tackle the problem?"

"Whatever the case, the fact is that a step has been taken since the minister himself has acknowledged the existence of the problem and has promised to take measures. All of us now expect an implementation of such measures. I am afraid, however, that such implementation will be difficult because until now we find no evidence that the Ministry of Industry is indeed working on

the problem. Whenever he came here, Minister Evert always tried to appease us. Moreover, whenever we file charges against the industrialists, the defense witnesses are always ministry employees. Our only hope now lies with the Ministry of Social Services. If it fails to do anything then we will take matters in our own hands... We cannot tolerate seeing our children in these clouds of dust and remain passive. The pollution has penetrated our skin. Let at least our children be saved as well as those yet to be born because the Sassanis revelations spell tragedy for all of us... If the coming generation is destroyed, what do we need the factories for? Who is going to work in them?"

The Children

The Elevsis residents are now waiting for the state and for the minister /of social services/ who was first to recognize that a problem does indeed exist and to recognize the need to promptly and drastically react against the pollution of their city's environment, a city which destroys its own children against its will.

Gynecologist Sassanis said yesterday to TA NEA: "The Medical Association regulations do not allow me to make statements. But whatever I said and what was published in TA NEA of 5 June is true..." Sassanis, however, had said enough: "In the past 15 years the pollution has begun to influence the heredity of the Elevsis residents..."

This is a tragic fact which was admitted by the social services minister just a few days ago. We are now awaiting to see what he will do. All the Elevsinians are waiting anxiously for action. And as one of them characteristically said: "We do not expect to become another Ekali /Northern Athens suburb/. But they should not let us become a Sevezo /transliteration/."

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BRIEFS

FORESTRY MINISTER'S WARNING--Minister of Forestry Verdi Ilhan reports that if fires and irresponsible cutting continues at the present rate Turkey will be required to import timber by 1982. The minister disclosed the following information about forest fires: "513,000 hectares of land have been planted with trees from the Ottoman times until now. During this same period 1,197,000 hectares of forested land has been lost to forest fires. As you can see, four times as much forest land has been burned as has been planted. If it continues at this rate our forests will be obliterated." Minister Ilhan reported that in order to combat forest fires, before all else, roads must be built within the forests. As it stands now, it takes an excessive period of time to reach areas which are ablaze. [Text] [Istanbul MILLIYET in Turkish 13 Aug 78 p 9]

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